



Display Displacements

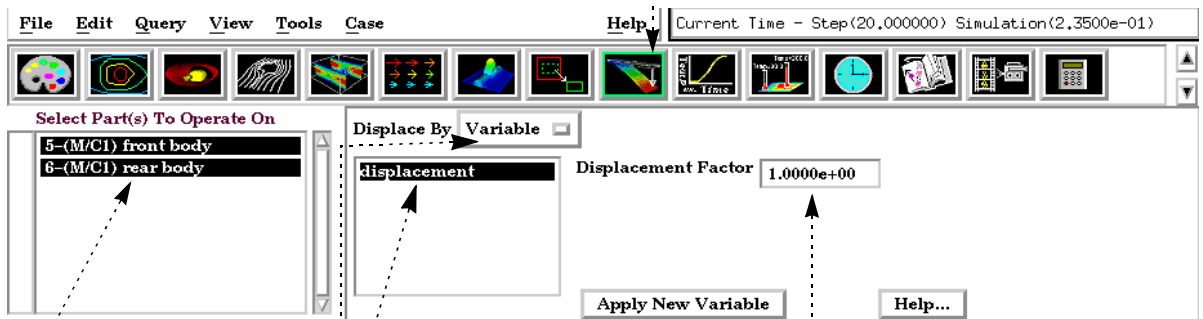
## INTRODUCTION

In structural mechanics simulations, a common output variable is a set of vectors representing the movement or displacement of geometry. Each displacement vector specifies a translation of a node from its original position (an offset). EnSight can display and animate these displacements to help visualize the relative motion of geometry.

In many cases, the magnitude of the actual displacements is extremely small relative to the size of the model. EnSight provides a displacement factor to scale the vectors and exaggerate the displacement.

## BASIC OPERATION

2. Click the displacement creation icon.



1. Select the parent parts.

3. Select the variable to use.

4. Select Variable from the Displace By pulldown.

5. If desired, enter a value for the Displacement Factor and press return.

Note that your changes in the Quick Interaction area are immediate. Specifying a displacement does not create a new part, it merely sets the displacement attributes for the selected parts.

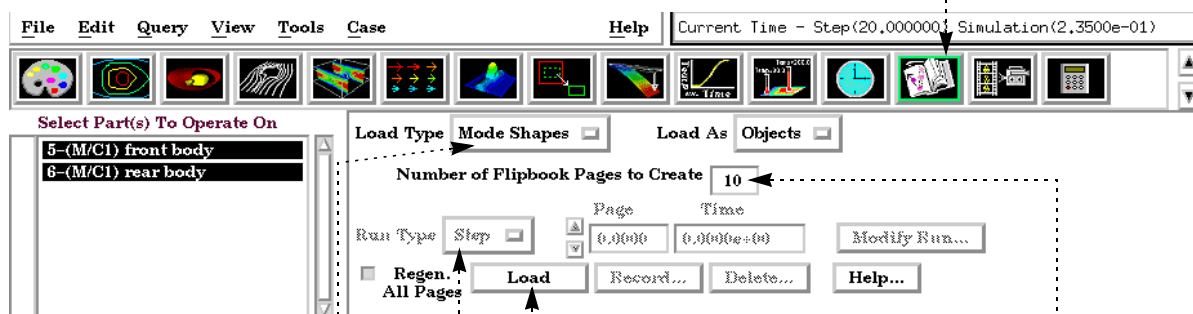


## ADVANCED USAGE

Vibrational analysis typically produces eigenvectors. EnSight can animate these vectors as *mode shapes* to visualize selected vibration modes (each represented by a different displacement vector). The EnSight Flipbook is used to build and load the animation. Once loaded, the animation can be replayed while still providing viewing control. To create a mode shape flipbook:

1. Be sure displacements are active and the Displacement Factor is set to a suitable value (as described above).

2. Click the Flipbook icon.



3. Select Mode Shapes from the Load Type pulldown.

4. Enter the desired number of Flipbook pages to create.

5. Click "Load".

6. Once loading is complete, change the Run Type to Auto.

The first page of the animation shows the full displacement (as it is shown in the Graphics Window without the Flipbook) while the last page shows full displacement in the opposite direction. Intermediate pages show displacements as driven by the cosine function.

Note that you can create **copies** or **extracts** of parts and simultaneously display them with different mode shape variables or to show the initial static state along with the mode shape animation.

## SEE ALSO

See [How To Create a Flipbook Animation](#) for more information on Flipbooks.

User Manual: [Displacements On Parts, Flipbook Animation](#)